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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,819	01/24/2002	Stanislaw Czaja	LSI-008-PAP	3400

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EXAMINER	
PHAN, HUY Q	

ART UNIT	PAPER NUMBER
2685	

DATE MAILED: 08/03/2004

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/056,819	CZAJA ET AL.	
	Examiner	Art Unit	
	Huy Q Phan	2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 January 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19,24 and 25* is/are rejected.

7)☐ Claim(s) *20-23* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 3 is objected to because of the following informalities:

The examiner suggests editing the first occurrence of the term "PCG", with language such as - - Power Control Group - - to maintain consistency with the specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-8, 10, 13-19 and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Tiedemann, Jr. (US-6,307,847).

Regarding claim 1, Tiedemann, Jr. discloses a method of performing cell selection handoffs in a wireless communication system (fig. 1, feature 2),

wherein the wireless communication system includes a plurality of base stations in communication with at least one mobile station, wherein the base stations transmit information to the at least one mobile station via a forward link, and wherein the base

stations receive information from the at least one mobile station via a reverse link (col. 4, line 44-col. 5, line 5), and

wherein each base station is capable of gating off transmissions for selected time intervals (col. 14, lines 25-57), and

wherein the at least one mobile station is capable of determining a strongest base station (col. 14, lines 15-24 and col. 11, lines 10-67), and

wherein the communication system is capable of performing soft handoffs (col. 5, lines 50-65), comprising the steps of:

a) determining a desired set of base stations (col. 3, lines 5-39 and col. 5, line 50-col. 6, line 5);

b) gating off selected base stations based on the desired set of base stations that was determined during step (a) (col. 14, lines 25-57); and

c) performing a soft handoff (col. 6, lines 6-41).

Regarding claim 2, Tiedemann, Jr. discloses a method as recited in the rejection of claim 1, wherein the step (a) comprises determining a set of strong base stations within a mobile station active set (col. 6, lines 19-29).

Regarding claim 3, Tiedemann, Jr. discloses a method as recited in the rejection of claim 1, wherein the step (a) comprises determining a set of strong base stations on a PCG basis (col. 18, lines 6-28).

Regarding claim 4, Tiedemann, Jr. discloses a method as recited in the rejection of claim 1, wherein the step (b) comprises gating off all base stations except for the desired set of base stations (col. 14, lines 25-57).

Regarding claim 5, Tiedemann, Jr. discloses a method as recited in the rejection of claim 1, wherein the step (a) comprises the following sub-steps;

i) measuring carrier-to-interference ratios of all base stations in a mobile station active set (col. 3, lines 5-39); and

ii) selecting a base station having a best signal to noise (Eb/Nt) to achieve a specified QOS to be a chosen base station of the desired set of base stations (col. 11, lines 10-67 and col. 13, lines 20-40).

Regarding claim 6, Tiedemann, Jr. discloses a method as recited in the rejection of claim 1, wherein the step (a) is performed by a mobile station (col. 3, lines 5-39 and col. 5, line 50-col. 6, line 5).

Regarding claim 7, Tiedemann, Jr. discloses a method as recited in the rejection of claim 1, wherein the step (a) comprises the following sub-steps:

i) measuring a plurality of received pilot Ec/Io values that represents a pilot Ec/Io for each pilot in a mobile station active set (col. 10, line 64-17);

ii) averaging the plurality of received pilot Ec/Io values (col. 17, lines 35-45); and

iii) selecting a base station having a best pilot Ec/Io value to be a chosen base station of the desired set of base stations (col. 17, lines 45-54).

Regarding claim 8, Tiedemann, Jr. discloses a method as recited in the rejection of claim 7, wherein the averaging sub-step (ii) is implemented by hardware (inherently to the control processor (46) of mobile phone (18); see fig. 3 and col. 17, lines 35-54).

Regarding claim 10, Tiedemann, Jr. discloses a method as recited in the rejection of claim 7, wherein the averaging sub-step (ii) is performed by a filter (204) (see fig. 11 and col. 17, lines 35-67).

Regarding claim 13, Tiedemann, Jr. discloses a method as recited in the rejection of claim 1, wherein the step (b) comprises transmitting a gate off message to all base stations in a mobile station active set except for the desired set of base stations (col. 14, lines 25-57).

Regarding claim 14, Tiedemann, Jr. discloses a method as recited in the rejection of claim 1, wherein the gate off message is transmitted via a feedback channel (col. 17, lines 14-34).

Regarding claim 15, Tiedemann, Jr. discloses a method as recited in the rejection of claim 14, wherein the feedback channel has a length of one to several PCG (col. 17, lines 14-34).

Regarding claim 16, Tiedemann, Jr. discloses a method as recited in the rejection of claim 14, wherein the feedback channel has a rate ranging between 200 Hz and 1600 Hz (col. 21, lines 30-45).

Regarding claim 17, Tiedemann, Jr. discloses a method as recited in the rejection of claim 1, wherein the step (a) comprises the following sub-steps:

i) continuously determining channel condition estimate for each base station in a mobile station active set (col. 3, lines 5-39);

ii) continuously sorting the channel condition estimates by strength (col. 11, lines 10-17); and

iii) continuously determining whether a strongest channel condition estimate is greater than a threshold parameter (col. 11, lines 18-67).

Regarding claim 18, Tiedemann, Jr. discloses a method as recited in the rejection of claim 17, wherein the determining sub-step (i) utilizes a sum of all usable multipath signals to estimate channel conditions (col. 14, lines 15-24).

Regarding claim 19, Tiedemann, Jr. discloses a method as recited in the rejection of claim 17, wherein the estimating sub-step (i) averages the continuous channel condition estimate during uncertainty periods (col. 16, line 29-col. 17, line 54).

Regarding claim 24, Tiedemann, Jr. discloses an apparatus for performing cell selection handoffs in wireless communication system (fig. 1, feature 2),

wherein the wireless communication system includes a plurality of base stations in communication with at least one mobile station, wherein the base stations transmit information to the at least one mobile station via a forward link, and wherein the base stations receive information from the at least one mobile station via a reverse link (col. 4, line 44-col. 5, line 5), and

wherein each base station is capable of gating off transmissions for selected time intervals (col. 14, lines 25-57), and

wherein the at least one mobile station is capable of determining a strongest base station (col. 14, lines 15-24 and col. 11, lines 10-67), and

wherein the communication system is capable of performing soft handoffs (col. 5, lines 50-65), comprising the steps of:

a) means for determining a desired set of base stations (col. 3, lines 5-39 and col. 5, line 50-col. 6, line 5);

b) means, responsive to the determining means, for gating off selected base stations based on the desired set of base stations that was determined by the determining means (col. 14, lines 25-57); and

c) means, responsive to the gating off means, for performing a soft handoff (col. 6, lines 6-41).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 9 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiedemann, Jr.

Regarding claims 9 and 25, Tiedemann, Jr. discloses a method of performing cell selection handoffs in a wireless communication system (fig. 1, feature 2),

wherein the wireless communication system includes a plurality of base stations in communication with at least one mobile station, wherein the base stations transmit information to the at least one mobile station via a forward link, and wherein the base stations receive information from the at least one mobile station via a reverse link (col. 4, line 44-col. 5, line 5), and

wherein each base station is capable of gating off transmissions for selected time intervals (col. 14, lines 25-57), and

wherein the at least one mobile station is capable of determining a strongest base station (col. 14, lines 15-24 and col. 11, lines 10-67), and

wherein the communication system is capable of performing soft handoffs (col. 5, lines 50-65), comprising the steps of:

a) determining a desired set of base stations (col. 3, lines 5-39 and col. 5, line 50-col. 6, line 5) and further averaging the plurality of received pilot Ec/Io values (col. 17, lines 35-45)

b) gating off selected base stations based on the desired set of base stations that was determined during step (a) (col. 14, lines 25-57); and

c) performing a soft handoff (col. 6, lines 6-41).

But Tiedemann, Jr. fails to particularly disclose a computer program executable on a general purpose computing device, wherein the program is capable of performing cell selection handoffs in a wireless communication system. However, the examiner takes official notice that it is well known in the art to perform any method, which contains sequent steps by implementing a computer program executable on a general purpose computing device. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the method of Tiedemann, Jr. by specifically having a computer program executable on a general purpose computing device for performing said method in order to improve the speed, accuracy, quality, reliability and cost of wireless communications system.

5. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiedemann, Jr. in view of Lee (US-6,744,754).

Regarding claims 11 and 12, Tiedemann, Jr. discloses a method as recited in the rejection of claim 10. But, Tiedemann, Jr. does not expressly show wherein the averaging sub-step (ii) is performed by an IIR filter and wherein the averaging sub-step (ii) is performed by an FIR filter. However in analogous art, Lee teaches wherein the averaging the plurality of received pilot Ec/Io values is performed by an IIR filter or performed by an FIR filter (col. 8, lines 41-67). Since, Tiedemann, Jr. and Tiedemann, Jr. are related to signal controlling based on a particular signal quality measurement; therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Tiedemann, Jr. by specifically averaging the plurality of received pilot Ec/Io values being performed by an IIR filter or performed by an FIR filter as taught by Lee for purpose of removing any erroneous signal by using one of the most well known technique in order to reduce the cost of communication system.

Allowable Subject Matter

6. Claims 20-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Frodigh et al. (US-6,381,458) disclose soft handoff in a wireless communication system.

b) Padovani et al. (US-6,151,502) disclose soft handoff in a wireless communication system.

c) Mimura (US-6,587,445) discloses soft handoff in a wireless communication system.

d) Kumar et al. (US-6,507,572) disclose forward link in CDMA systems.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huy Q Phan whose telephone number is 703-305-9007. The examiner can normally be reached on 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Urban F Edward can be reached on 703-305-4385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phan, Huy Q AU: 2685 Date : Jul. 23, 2004

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